

ISO 14001 EMS Value Proposition

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Objective:

Identify business opportunities and value for Battelle Organizations to undertake ISO 14001 Environmental Management System Implementation and registration to the international standard as a corporate strategic initiative.

Drivers:

- Executive Order 13148, Greening the Government
- DOE Order 450.1, Greening the Government
- DOE Order 450.4, Integrated Safety Management
- EPA initiative, "Action Plan for Promoting the Use of EMSs", 8/01
- CEQ goal to increase U.S. ISO 14001 registrations, twenty-fold, 8/01
- EPA National Performance Track
- State programs to assist organizations with implementation of EMSs

Benefits of ISO 14001 EMS Implementation:

- Robust and rigorous system to identify **environmental hazards** & implement controls in a **prioritized** fashion, focusing limited resources in critical areas and reducing the overall **risk profile** of the organization.
 - Avoid/minimize short and long term costs of emergency response through implementation of preventive measures and plans (accidents, spills, releases costs of response, clean-up & possible regulatory penalties, litigation fees and settlements)
 - Incorporation of environmental factors into design phase reduces lifecycle and liability costs associated with product/facility use, misuse, and disposal
 - Improve management of Remediation and Decommission & Decontamination projects (operational costs and schedule)
 - Limiting risk exposure lowers insurance costs.
- Establishes systematic method for managing environmental requirements and responsibilities in a **Compliance Assurance** program
 - Systematic method to achieve and maintain compliance status
 - Enables uninterrupted operations.
 - Reduces costs (fines, permit denials, legal fees) and avoids costs incurred by organization (increased regulatory flexibility enables expedited permit processes, avoids delays to new starts, expansion, product commercialization/time to market).

- Enables planning & preparation for compliance to anticipated regulatory requirements (new or revised requirements).
- Improved **stakeholder relationships**
 - Avoids costs and negative publicity associated with community concerns that can delay new starts, facility construction, or expansion.
 - Ensures consideration of stakeholder concerns.
- Reduced total resource inputs, hazardous inputs, or undesirable by-products results in **decreased costs of production, compliance, waste disposal and management costs**, thereby increasing funds for mission-related endeavors and profits.
 - Reduction in amount of resources used per unit product (process optimization)
 - Minimize waste products, thereby reducing disposal costs, regulatory reporting costs, potential for spills and unacceptable H&S exposures
 - Reduction in use of hazardous materials in work process reduces costs of engineering and administrative controls, thus reduced costs of managing hazards.
 - Spurs innovation and increases eco-efficient operations & productivity through implementation of Pollution Prevention techniques, process reengineering, use of new technology and energy efficient equipment, and streamlining efforts.
 - Encourages sustainable design in construction
- Focus on **Pollution Prevention** results in elimination of hazardous materials through non-hazardous material substitutions, which in turn eliminates the applicability of regulatory requirements, including costs associated with sample collection, analysis, training, reporting, inspections, and disposal.
- Demonstrates and simplifies determination by DOE an organization's **conformance** to the environmental portion of ISM, key elements of EO 13148, and contractual requirements.
- **Improved awareness** of environmental issues, enhanced environmental ethic, and increased responsibility and accountability for environmental performance by staff, through training, communication, flow-down of goals to relevant levels of the organization, and performance. Increase in employee morale and motivation does not only result in "feel good" factor but an increase in suggestions for improvements and cost savings.
- **Formal documentation** of processes and procedures makes environmental management "systems dependent" rather than "person (knowledge) dependent" and enables transfer and diffusion of important information over time and from one employee to another.
- An EMS program satisfies many of the requirements associated with the institutional management functions of a **Long Term Stewardship (LTS)** Program. Capitalizing on the integration opportunities can yield savings in terms of program development, training, and implementation costs. In addition, lead time needed to transition to LTS is minimized and the long-term mortgage associated with LTS requirements can also be reduced. The heightened environmental ethic of employees, increased the environmental

care considerations in the planning and execution of work, and improved the ownership and inherent responsibility for environmental stewardship which results from EMS Program implementation yields an organizational culture that is ready to accept its LTS responsibilities. Lastly, the assurance provided by independent audits may be sufficient for the regulators to expedite de-listing portions of the site from the National Priorities List.

Benefits of ISO 14001 EMS Registration:

- **Independent verification** and ongoing surveillance audits provide assurance to stakeholders that a robust system is maintained and improvements in the system and performance are ongoing.
- **Reduced priority for oversight inspections** by DOE, EPA, and state regulatory agencies. **Streamlined regulatory administrative process** (ex: permitting) by EPA. **Reduced regulatory burden** (ex: monitoring) by EPA
- **Value added findings and improvement areas** by external independent auditors. Surveillance audits maintain vigilance, emphasis and focus on environmental programs by staff & management.
- Promotes an **image of environmental leadership**.
- Ensures **access to global markets**, and may tip the balance in its favor when competing with non-certified organizations.
- **Prerequisite for suppliers** to auto industry (others to follow, such as CERN). Reduction in customer/supplier audits.
- **Tax benefits** (35% credit in Oregon)

Strategic Corporate Elements:

- **Reduced risk profile** resulting in reduced insurance premiums and increased access to money from financial institutions and investors.
- BNL experience with implementation and registration enables **faster, cheaper, and better deployment** at other DOE facilities. Estimated cost savings of 25% by applying BNL prototype to any DOE National Laboratory.
- Recognition of **Battelle's commitment to environmental stewardship** perceived as indicator of environmental excellence (sic); perception of proactive, progressive, and cutting-edge management stance; benchmark-quality program.
 - Consumer demands for environmentally-friendly products and environmentally responsible corporations are on the rise.
 - Improve marketability of products and services.
 - Focus on sustainability demonstrates commitment to long-term value creation.
- **Competitive edge** within DOE sector. Prerequisite to do business within auto industry (additional sectors expected to follow). Increasingly ISO 14001/EMS included in procurement contract preferences, including federal agencies as they establish systems that conform to EO13148 requirements.
 - High environmental performance standards are increasingly expected of vendors and suppliers.

- Establishes **bond of trust** between Battelle organizations and local community members, opinion leaders, DOE, EPA, local and state regulators.
- Facilitates **culture change** amongst all staff and managers, elevating responsibility and accountability for environmental performance.
- Systematic “**Due diligence**” processes identify environmental hazards/liabilities associated with property acquisitions and divestitures, directly affecting prices, long term operational & development costs.
 - Influences **strategic business investments** to more profitable and environmentally-benign activities.
- ISO 14001 certification is more effective than voluntary programs (VPP, Responsible Care, and Industrial Environmental programs, ie., 33/50 P2) in **achieving improved performance**. Underlying reasons for ISO success is its focus on “process” (versus output), thus more likely to change underlying processes to make them more efficient, and independent certification, thus organization more likely to take this approach more seriously.
- Reduced environmental risk profile coupled with active Pollution Prevention Program focused on reducing applicability of regulatory requirements, enables larger percentage of **research dollars** to go directly to scientific programs.
- After successful negotiation with DOE, potential to eliminate the applicability of several **DOE Orders** to the environmental programs/activities at BNL, as ISO 14001 encompasses these basic requirements, or at a minimum enables BNL to assert that it complies with these Orders. Examples of such DOE orders include:
 - O 251.1A Directives System
 - P 450.4 Safety Management System Policy
 - O 440.1 Worker Protection Management for DOE Federal and Contractor Employees
 - O 200.1 Information Management Program
 - O 231.1 Environment, Safety, and Health Reporting
 - O 470.2A Security and Emergency Management Independent Oversight and Performance Assurance Program
 - O 414.1A Quality Assurance
 - O 413.3 Program and Project Management for the Acquisition of Capital Assets
 - 5400.1 General Environmental Protection Program
 - 5480.20A Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities
 - O 151.1A Comprehensive Emergency Management System
 - P 413.1 Program and Project Management Policy for the Planning, Programming, Budgeting, and Acquisition of Capital Assets
- Progress toward ISO implementation/certification influenced by the following **success factors**: size of organization (larger organizations more successful), nature of ownership (foreign-owned org more successful); success with QS9000 or ISO 9000 certification, success implementation of TQM systems, degree to which cross functional teams/programs used.

Risks:

- Failure would damage Battelle reputation for excellence in Laboratory operations.
- Lack of available Battelle resources, especially staff with experience and capability to lead/assist with implementation at other locations.
- Failure on the part of senior management to understand the level of Leadership commitment required for success.
- Diminished efforts and performance levels due to limited resources and competing priorities.
- Preference by individual organizations to “reinvent wheel” to enhance ownership and buy-in but reducing potential cost savings and increasing time period.

Cost Estimates:

- Costs will vary based on size of organization, environmental hazards, & status of existing support programs.
- Rule of thumb: implementation costs are equivalent to financial value of one-person-day level of effort, per employee. Majority of costs are people’s time; direct costs approximately 1/6 of overall costs. Additional reductions in costs expected for organizations with similar SBMS management system and PBM structures.
- Registration costs are a minor contribution to the overall implementation costs.
- Implementation time frame is nominally one year; preference is to extend over two years.
- Benefits outweigh costs. Return on investment expected within 1-2 years, from cost savings associated with waste minimization, pollution prevention, increased efficiencies, reduced stakeholder concerns, and reduced regulatory burden, oversight and enforcement are considered.

Needs Analysis:

- Project management and controls
- Management support and prioritization
- EMS Program design and implementation
- Tools and methods of integration with ISM
- EMS-related training programs
- Stakeholder communications
- Performance indicators and reporting
- Environmental cost accounting
- Corporate level registration contract